

REMARKS

In the non-final Office Action, the Examiner objected to the drawings for minor informalities; rejected claims 14, 16, 17, 22, 23, and 27 under 35 U.S.C. § 102(b) as anticipated by Boesch et al. (U.S. Patent No. 6,188,877, hereinafter "BOESCH") and rejected claims 14-27 under 35 U.S.C. § 102(b) as anticipated by Adar (U.S. Patent No. 5,774,017 hereinafter "ADAR").

By way of this Amendment, Applicants cancel claims 15 and 18 without prejudice or disclaimer, amend claims 14, 16, 17, and 19-27 to improve form, and add new claims 28 and 29. Applicants traverse the Examiner's objection to the drawings and the rejections under 35 U.S.C. § 102 in light of the amendments provided herein. Claims 14, 16, 17, and 19-29 are pending.

OBJECTION TO THE DRAWINGS

In paragraph 1 of the Office Action, the Examiner objected to Figs. 1, 2, and 4 of the drawings for lacking labels. Without acquiescing in the Examiner's objection, Applicants propose amending Figs. 1, 2, and 4 to provide labels for the various elements depicted in these drawings.

Accordingly, Applicants respectfully request the Examiner's reconsideration and withdrawal of the objection to the drawings.

REJECTION UNDER 35. U.S.C. § 102 BASED ON BOESCH

In paragraph 3 of the Office Action, the Examiner rejected claims 14, 16, 17, 22, 23, and 27 under 35. U.S.C. § 102(b) as allegedly anticipated by BOESCH. The rejection is respectfully traversed.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. See M.P.E.P. § 706.02. BOESCH does not disclose the combination of features recited in amended claims 14, 16, 17, 22, 23 and 27.

For example, amended independent claim 14 is directed to a method of reducing a negative influence on signals transmitted in one of at least two frequency bands. The method comprises providing a first connection between a signal generating unit and a signal processing unit; providing a second connection between the signal generating unit and the signal processing unit; transmitting, by the signal generating unit, signals in a first frequency band on the first connection; transmitting, by the signal generating unit, signals in a second frequency band on the second connection; generating, by the signal generating unit, a control signal when the signals are to be transmitted on the second connection; and breaking the first connection in response to the control signal.

BOESCH does not disclose the combination of features recited in amended claim 14. For example, BOESCH does not disclose breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit, as recited in claim 14.

The Examiner alleged that BOESCH discloses breaking a second connection to allow only a 800 MHz signal band to connect to a power amplifier by closing switch 724 and opening switches 722 and 724, or to allow a 1900 MHz signal band to connect to a

power amplifier by closing switch 722 and opening switches 724 and 726, and cited Fig. 7, the Abstract, and column 10, lines 30-67, of BOESCH for support (Office Action, paragraph 3). Without acquiescing in the Examiner's allegations, Applicants submit that BOESCH does not disclose breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit, as recited in claim 14.

At column 10, lines 30-67, and with regard to Fig. 7, BOESCH discloses:

As with the embodiment illustrated in FIG. 4, the amplifier may be operated in one of a number of selectable modes to amplify analog or digital signals in the 800 MHz frequency band or digital signals in the 1900 MHz frequency band. For the 1900 MHz mode of operation, switch 722 is closed, while switch 724 is open. Digitally modulated input signals in the 1900 MHz frequency band are input via input terminal 405 and provided to filter 710. The signal output by filter 710 is coupled to the input of TDMA driver amplifier 702 via switch 722. The output of TDMA driver 702 is provided to TDMA final amplifier 604, which efficiently amplifies the digitally modulated signal and outputs the amplified signal to duplex matching circuit 430.

To amplify analog RF signals in the 800 MHz band, (800 MHz analog mode) switches 722 and 724 are open, while switch 726 is closed. Frequency modulated (i.e. analog or FM) input signals in the 800 MHz frequency band are input to amplifier 700 via input terminal 415 and provided to filter 720. The signal output by filter 720 is coupled to the input of 800 MHz driver amplifier 712 via closed switch 726. A second filter 704 is coupled to the output of 800 MHz driver amplifier 712 and to the input of final amplifier 414.

Final amplifier 414 is biased for operation in saturated mode, and therefore efficiently amplifies the FM signal and outputs the amplified signal to matching circuit 440.

To amplify digitally-modulated (e.g. .pi./4 DQPSK) RF signals in the 800

MHz band, (800 MHz digital mode) switches 722 and 726 are open, while switch 724 is closed. Digitally modulated input signals in the 800 MHz frequency band are input to amplifier 700 via input terminal 415 and provided to filter 720. The signal output by filter 720 is coupled to the input of TDMA driver 702 via node 728 and switch 724. Signals from TDMA driver amplifier 702 are provided to TDMA final amplifier 604. As noted above, final amplifier 604 is biased for operation in linear mode. Amplifier 604 efficiently amplifies the digitally modulated signal and outputs the amplified signal to diplex matching circuit 430.

In this section, BOESCH discloses that for the 1900 MHz mode of operation, switch 722 is closed while switch 724 is opened, and that for the 800 MHz mode of operation, switches 722 and 724 are opened while switch 726 is closed. Even assuming, for the sake of argument, that opening switches 722, 724, and/or 726 can reasonably correspond to breaking a connection (a point that Applicants do not concede), BOESCH does not disclose that switches 722, 724, and/or 726 break the connection in response to a control signal generated, by a signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit.

Rather, BOESCH discloses that the positions of switches 722, 724, and 726 are controlled by a mode control signal from a microprocessor within a radiotelephone. BOESCH does not disclose that this microprocessor is a signal generating unit that transmits, to a signal processing unit, signals in a first frequency band on a first connection and transmits, to the signal processing unit, signals in a second frequency band on a second connection. Thus, BOESCH does not disclose breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second

frequency band are to be transmitted on a second connection between the signal generating unit and the signal processing unit, as recited in claim 14.

In the Abstract, BOESCH discloses:

A power amplifier circuit has a driver amplifier stage including a low band driver amplifier and a high band driver amplifier. A final amplifier stage includes a linear mode amplifier for amplifying digitally modulated signals and a saturated (nonlinear) mode amplifier for amplifying frequency modulated (analog) signals. A switching network interconnects the driver amplifier stage and the final amplifier stage. Depending on the desired mode of operation, an appropriate driver amplifier can be coupled to an appropriate final amplifier to most effectively and efficiently amplify analog or digital RF signals in either of a plurality of frequency bands. A matching circuit is coupled to the linear mode final amplifier for impedance matching and for separating D-AMPS (800 MHz band) and PCS (1900 MHz band) digital signals. A power impedance matching circuit is coupled to the output of the saturated mode final amplifier. In one embodiment, an isolator is coupled to the output of one or more of the low band or high band outputs of the duplex matching circuit. In the low band analog path, a duplexer is provided ahead of the coupling means for reducing the RF power requirements on the coupling means. The switching network and input filter stage may precede a driver amplifier stage.

In this section, BOESCH discloses a switching network that interconnects a driver amplifier stage and a final amplifier stage to connect, depending on the desired mode of operation, an appropriate final amplifier to amplify analog or digital RF signals in either of a plurality of frequency bands. While this section of BOESCH discloses a switching network, BOESCH does not disclose that this switching network is capable of breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit, as recited in claim 14.

For at least the foregoing reasons, Applicants respectfully submit that claim 14 is not anticipated by BOESCH.

Amended independent claims 16, 17, 22, 23, and 27 recite features similar to (yet possibly different in scope than) features recited in claim 14. Accordingly, claims 16, 17, 22, 23, and 27 are not anticipated by BOESCH for at least reasons similar to the reasons given with regard to claim 14.

Accordingly, Applicants respectfully request the Examiner's reconsideration and withdrawal of the rejection of claims 14, 16, 17, 22, 23, and 27 under 35 U.S.C. § 102 based on BOESCH.

REJECTION UNDER 35. U.S.C. § 102 BASED ON ADAR

In paragraph 4 of the Office Action, the Examiner rejected pending claims 14, 16, 17, and 19-27 under 35 U.S.C. § 102(b) as allegedly anticipated by ADAR. The rejection is respectfully traversed.

As explained above, a proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. See M.P.E.P. § 706.02. ADAR does not disclose or suggest the combination of features recited in pending claims 14, 16, 17, and 19-27.

For example, amended independent claim 14 is directed to a method of reducing a negative influence on signals transmitted in one of at least two frequency bands. The method comprises providing a first connection between a signal generating unit and a signal processing unit; providing a second connection between the signal generating unit and the signal processing unit; transmitting, by the signal generating unit, signals in a first

frequency band on the first connection; transmitting, by the signal generating unit, signals in a second frequency band on the second connection; generating, by the signal generating unit, a control signal when the signals are to be transmitted on the second connection; and breaking the first connection in response to the control signal.

ADAR does not disclose the combination of features recited in amended claim 14. For example, ADAR does not disclose breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit, as recited in claim 14.

The Examiner alleged that ADAR discloses breaking a second connection to allow only a 800 MHz signal band to connect to a power amplifier by turning off switch 192, or vice versa, and cited Fig. 5A and column 9, lines 57-62, of ADAR for support (Office Action, paragraph 4). Without acquiescing in the Examiner's allegations, Applicants submit that ADAR does not disclose breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit, as recited in claim 14.

At column 9, lines 57-62, and with regard to Fig. 5A, ADAR discloses:

FIG. 5A is the block diagram of an alternative embodiment wherein like elements are similarly designated as FIG. 4. For the 800 MHz operation, switches 190 and 194 are closed, and switches 192 and 196 are open. For

the 1900 MHz operation, switches 192 and 196 are closed and switches 190 and 194 are open.

In this section, ADAR discloses that for the 800 MHz operation, switches 190 and 194 are closed and switches 192 and 196 are opened, and that for the 1900 MHz operation, switches 192 and 196 are closed and switches 190 and 194 are opened. Even assuming, for the sake of argument, that opening switches 192 and 196, or switches 190 and 194, can reasonably correspond to breaking a connection (a point that Applicants do not concede), ADAR does not disclose that switches 190, 192, 194, and 196 break the connection in response to a control signal generated, by a signal generating unit, when signals in a second frequency band are to be transmitted on a second connection by the signal generating unit to the signal processing unit. Thus, ADAR does not disclose breaking a first connection, between a signal generating unit and a signal processing unit, in response to a control signal generated, by the signal generating unit, when signals in a second frequency band are to be transmitted on a second connection between the signal generating unit and the signal processing unit, as recited in claim 14.

For at least the foregoing reasons, Applicants respectfully submit that claim 14 is not anticipated by ADAR.

Amended independent claims 16, 17, 22, 23, and 27 recite features similar to (yet possibly different in scope than) features recited in claim 14. Accordingly, claims 16, 17, 22, 23, and 27 are not anticipated by ADAR for at least reasons similar to the reasons given with regard to claim 14.

Claims 19-21 depend from claim 17, and claims 24-26 depend from claim 23. Without acquiescing in the Examiner's rejection of claims 19-21 and 24-26, Applicants

submit that claims 19-21 and 24-26 are not anticipated by ADAR for at least the reasons given with regard to claims 17 and 23.

Accordingly, Applicants respectfully request the Examiner's reconsideration and withdrawal of the rejection of claims 14, 16, 17, and 19-27 under 35 U.S.C. § 102 based on ADAR.

NEW CLAIMS

New claim 28 depends from claim 14, and new claim 29 depends from claim 17. Applicants submit that each of claims 28 and 29 is patentable over the applied references at least by virtue of its dependency from a patentable independent claim.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of the pending claims.

As Applicants' remarks with respect to the Examiner's rejections overcome the rejections, Applicants' silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, reasons for modifying a reference and/or combining references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to dispute these assertions/requirements in the future.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue that remains unresolved, or should any new issues

arise which could be eliminated through a discussion with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order to expedite further prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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